HIGHLIGHTS of the June 1995 ASISWG/ASISRG Meeting

The Ada Semantic Interface Specification Working Group (ASISWG) and the Ada Semantic Interface Specification Rapporteur Group (ASISRG) met at the Washington Ada Symposium (WAdaS'95) in McLean, Virginia, the United States from 26-27 June 1995. We made significant progress towards developing an ASIS95 specification for eventual ISO standardization. Highlights from this meeting include:

1. This represented the first joint meeting of ASISWG and the newly formed ASISRG. On 28 April 1995, ISO/IEC SC22/WG9 unanimously voted to pursue the standardization of ASIS. A new work item will be submitted to SC22 for formal approval in September 1995. At this June meeting, the roles of ASISWG and ASISRG were discussed as was the wording for the ASISRG new work item. ASISRG will standardize ASIS as a stand alone international standard.

2. Differences in the understanding of terminology had created significant confusion and flames over the net. We spent a great deal of time spent ironing out an understanding of the meaning of words and phrases we use as a group in discussion. This went a long way toward helping us broaden our scope. The agreement to use RM95 terminology and not conflict with its definition was important in removing some of the confusion we encountered when discussing ASIS.

3. The ASIS Library Model has become an ASIS Environment Model to support the changes from Ada87 to Ada95. Ada87 had notions of a library, compilation/recompilation order, and obsolete units; Ada95 replaces these notions with an Ada environment, semantic dependencies, and a consistent set of the unit supporters. ASIS has been redefined as follows:

   > *The Ada Semantic Interface Specification (ASIS) is an interface between an Ada environment as defined by ISO/IEC 8652 (the Ada95 Reference Manual) and any tool requiring information from this environment. An Ada environment includes valuable semantic and syntactic information. ASIS is an open and published callable interface which gives CASE tool and application developers access to this information. ASIS has been designed to be independent of underlying Ada environment implementations, thus supporting portability of software engineering tools while relieving tool developers from having to understand the complexities of an Ada environment's proprietary internal representation.*

   Earlier ASIS definitions assumed the presence of persistent data in a heavyweight Ada program library. The current definition has no requirement to maintain persistent data and thus facilitates many implementations with lightweight Ada environments.

4. The heart of the meeting addressed the new version of the ASIS95 Element_Kind Type Hierarchy and the proposed changes to ASIS87 to produce the ASIS95 draft standard. Together, these will form the basis for the ASIS95 specification and standard. These revisions reflect the new ASIS Environment Model. They were approved as modified and will be maintained as:

   Issue 001 Proposed ASIS95 Element_Kind Type Hierarchy
   Issue 002 Proposed change to ASIS87 to produce ASIS95 draft standard

   Still needed to produce the first draft standard are additional clarifying commentary, conversion into an ISO format, and the identification of additional queries, specially for the Ada95 OO model. We would appreciate input from OO experts so ASIS can provide the appropriate level of interfaces.

5. We are planning to distribute the first draft of ASIS95 at Tri-Ada'95 in November 1995.

6. Although degrees of conformance cannot be addressed until the ASIS95 specification is better defined, preliminary conformance issues were discussed. A minimum capability would support the environment semantics providing an external (black box) view of Ada compilation units. This implies full support of

the packages ASIS_Environment, ASIS_Libraries, and ASIS_Compilation_Units. These packages are being modified to support the new concept of the ASIS Environment Model and support of the minimum conformance requirement. Other degrees of conformance may be based on the ease of implementation, classes of semantic information for views internal (white box) to the compilation units, and support of data decomposition.

7. ASISWG/ASISRG has been working very closely with Moscow State University for their implementation of ASIS for the GNAT Ada 95 compiler. Their experience has been a valuable input for evolving the ASIS specifications to support lightweight Ada95 environments and for developing the ASIS Environment Model. The initial version of their ASIS interface has been implemented. Sample ASIS applications can now be built that can structurally decompose Ada95 compilation units down to the statements/declarations level. An ASIS Workshop centered around this tool is planned for Friday 6 October 1995 in conjunction with the Ada in Europe 95 Conference. For details, please contact either Sergey Rybin of Moscow State University (rybin@alex.srcc.msu.su) or Alfred Strohmeier of the Swiss Federal Institute of Technology (alfred.strohmeier@di.epfl.ch).

8. There are two ASIS tutorials soon to be available in the public domain. ASISWG/ASISRG thanks Rational and Thomson for their valuable contribution to the Ada community. These will soon be available on the asis host [sw-eng.falls-church.va.us host in the /public/AdaIC/work-grp/asiswg directory]. Links on the WWW => http://www.acm.org/sigada/WG/asiswg/asiswg.html provide access to all information on the asis host.

I would like to thank all those who participated in making this meeting a success including those attending in person and those contributing by email. Detailed minutes of the meeting will be posted to the asis host. The next meeting will be held in conjunction with TRI-Ada'95 on 2-4 November 1995 in San Diego, California, in the United States.

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